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Is Refugee and War Medicine Becoming a New Specialty?

C. Aguillaume

Fifth Lecture in the
Ashton Graybiel Lecture Series

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ASHTON GRAYBIEL LECTURE SERIES

Ashton Graybiel, M.D.

On July 26, 1988, the commanding officer established the Ashton Graybiel Lecture Series to honor the former scientific director of the Naval Aerospace Medical Research Laboratory. Like Dr. Graybiel, this lecture series should stimulate and challenge conventional research interests in naval aviation and aerospace medicine.

As a pioneer in the field of aviation medicine for over 40 years, Dr. Graybiel made many significant scientific contributions, which cannot be overstated. His world-renowned work advanced current aeromedical knowledge and established the reputation of this laboratory. Today, his expertise, foresight, and creativity remain as benchmarks in our aviation medicine research.

We are committed to the same level of excellence in meeting the "needs of the fleet" that Dr. Graybiel accomplished during four decades of research. This lecture series presents an opportunity to meet and share information with some of the most noted scientists in the fields of naval aviation, aerospace medicine, and environmental physiology.

Claude Jean Roger Aguillaume, M.D., M.P.H.

C. Aguillaume

Doctor Claude Jean Roger Aguillaume was born in Gueret, France, in 1944. In 1970, Dr. Aguillaume earned his tropical medical diploma with honors from the Faculté de Medecine de Marseille in France. From 1970-1972, Dr. Aguillaume served in the French military and organized the Occupational Medicine Network in Réunion Island. From 1972-1973, he was the doctor-in-charge at a 50-bed hospital in Madagascar. He received a masters degree in public health in 1974 from Johns Hopkins University, Baltimore, Maryland. From 1974-1977, he was a public health specialist in the Population Project Department of the World Bank Group in Washington, DC. From 1977-1980, Dr. Aguillaume was the Regional Director for International Projects with the Association for Voluntary Sterilization for the African and Middle Eastern regions. During this time, he also lectured for the Johns Hopkins Program for International Education in Gynecology and Obstetrics and for the International Training Institute for Maternal and Child Health and Family Planning at the Metropolitan Hospital Center, New York Medical College. Dr. Aguillaume then became a population and family health advisor with the Agency for International Development of the Republic of Burundi, American Embassy, while lecturing for the University of Burundi from 1981-1982. He next served as Fellow, Mount Sinai Medical Center, New York, and Director of Medical Services, Mount Sinai Hospital during 1982-1984. Between 1982 and 1986, he was also medical director of the methadone program at Mount Sinai Hospital. From 1984-1986, he was Instructor and Director of Medical Services at the Narcotic Rehabilitation Center, Mount Sinai Hospital. In March of 1986, Dr. Aguillaume was granted U.S. citizenship. His next position was senior health coordinator, United Nations High Commissioner for Refugees, Islamabad, Pakistan from 1986 to 1987. He then returned to the Mount Sinai School of Medicine to serve as adjunct instructor in the Department of Community Medicine. From 1991-1992, he was a consultant for the Population Council at the Center for Biomedical Research, New York, where he now serves as senior scientist and as visiting associate physician at the Rockefeller University Hospital.

Dr. Aguillaume is a member of numerous professional societies, and he has published and lectured extensively on many aspects of social medicine. Besides refugee medicine, he has worked tirelessly in the areas of family planning and community medicine with various groups and agencies such as the World Bank, the World Health Organization, the United Nations Development Program, and the United Nations Fund for Population Activities. Today, Dr. Aguillaume serves as a United Nations Representative of the league against drugs.

An avid cyclist, extensive traveller, and amateur archeologist, Dr. Aguillaume's hobbies also include films and photography. His pursuits have been acknowledged recently by the Metropolitan Museum in New York, which accepted 450 items of his work.

Is Refugee and War Medicine Becoming a New Specialty?

INTRODUCTION

The definition of a refugee in the Webster dictionary is "A person who flees to find refuge, especially one who escapes from invasion, oppression or persecution." Refugee comes from the French refugiè, which itself refers to the Latin refugium, which means to flee back (re = away, back; fugere = to flee).

Today, the word refugee encompasses more than one meaning. It refers to people who have crossed international borders fleeing war or persecution for reason of race, religion, nationality, or membership belonging in particular social and political groups and responding to the terms of international conventions (1). In its original sense, it refers not only to a person who looks for protection or shelter or both, as from danger or hardship, but anyone who turn for help, relief, or escape.

Afghan Refugees

In addition, there is an important distinction to make between a refugee (i.e., those who have crossed an international boundary in the pursuit of asylum) and internally displaced persons (i.e., those who have been physically displaced by warfare or are fleeing a reasonable fear of persecution, but have not crossed a recognized international boundary). In fact, today there are more and more internationally displaced persons for economical reasons, and ethnic conflicts. Ethnic conflicts are becoming a major source of refugees and displaced persons who seek safety in noninvolved nations, nations that are supportive of their interests, or nations with large ethnic confederate populations.

BACKGROUND

Relief has always been a tradition in humanitarian terms; from the example of the Good Samaritan cited in the New Testament to the Henri Dunant, founder of wartime charitable assistance in 1859. Dunant, who was a Swiss citizen, was horrified by the lack of care and medical attention of the soldiers dying in the battlefield of Solferino in Italy. Four years later, he and his group founded the International Committee of the Red Cross (ICRC). Several Geneva Conventions followed the first convention that was promulgated in 1864. Various amendments have been added leading to those signed in 1949, which were inspired by the Nazi atrocities exposed during the Nuremberg trials.

In 1951, the concern of the civilians care and displaced persons were specifically addressed. Today, two thirds of all countries in the World have ratified the 1951 Convention relating to the Status of Refugees and the 1967 Protocol, which guarantees the right to seek asylum. Further, more than 170 governments have signed conventions that specified the rights of prisoners of war and those of civilians in occupied territories. All this paperwork has given the mandate and the access to humanitarian and relief agencies to attend affected and wounded civilians, and also to care for soldiers who lay down their arms.

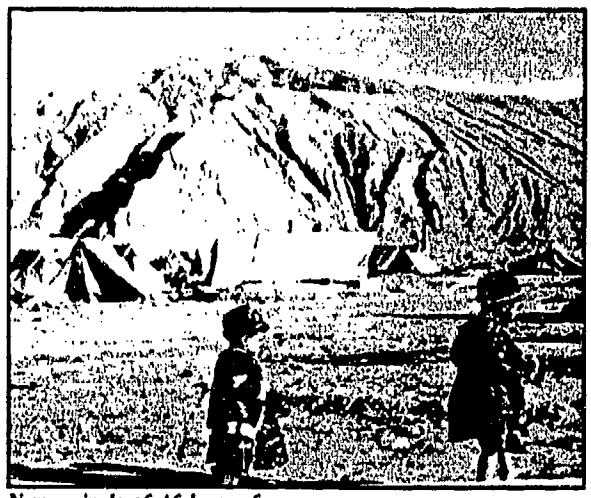
In 1977, additional scope was added to these conventions. As we said, not all governments have ratified these conventions, and the United states is one them. These countries are concerned about the inclusion of the following statement, "Armed conflict in which people fight against colonial domination and alien

occupation and against racist regimes in the exercise of their right of self-determination." We all know that contradictory interpretations of the Geneva Convention by relief agencies have hindered the provision of effective aid in countries in civil war. Today, we are witnessing many good examples in regions where loss of civil order and lack of recognized governments resulted in chaotic and delayed aid by many relief agencies such as Somalia, Ethiopia, and the Sudan.

THE GROWING NUMBER OF REFUGEES AND DISPLACED PERSONS

The number of refugees is constantly expanding. In 1980, refugees dependent on international assistance numbered only five million. The largest number of refugees (excluding Palestinians) remained concentrated in Asia which was hosting nearly seven million in early 1989, followed by Africa with 4.3 million refugees. Today Africa ranks second in the world for its population of asylum seekers. Both the Asian and the African continent registered substantial increase in the number of refugees during the last decade.

Today, in 1993, there are approximately 19 million legally defined refugees depending on the world generosity and further increase is expected.



New arrivals of Afghan refugees

These figures do not take into account the internally displaced persons as well as people seeking asylum for economic opportunities. The United Nations reports that the number of persons filing application for asylum in industrialized counties has grown substantially, to average well over half a million annually during the first years of the 1990s (...and this seems to be a very conservative figure when one considers the problem of illegal aliens around the globe).

As a result of today's armed conflicts and economic upheavals, there is "an epidemic of mass migration" with more than 43 million refugees and internally displaced persons (a little less than 1% of the world population). Furthermore, in most war and conflicts, we are now registering more civilian deaths than military fatalities for the first time since World War II (2). Also for the first time since World War II, there is a major increase of asylum-seekers into the Western European countries such as France, Germany, Sweden, Holland, and the United Kingdom. In France alone, among the 184,000 persons holding a refugee card, 60% have originated in Asia, and 28% from the Eastern European countries. The Federal Republic of Germany hosted some 150,000 Convention refugees (2). That number does not include relatives who were not granted refugee status automatically. (These figures are often approximate, and recently, many areas where refugee situations have arisen are not yet well documented.)

HUMAN REPERCUSSIONS BEYOND THE PUBLIC HEALTH SECTOR

Most of time, the consequences fall on innocent people caught in the mist of these military, civilian, and economical battlefields. These civilians are usually persecuted in violation of their human rights. The crimes that are committed go far beyond their health status.

Recently, rape and sexual violence have been documented as a strategy of war. Rape, so common in countries already in peace (there is one rape every few minutes in the United States), escalates in dramatic numbers during war time and is "in part the result of intentional and systematic violence against whole populations and/or ethnic groups--as seen recently in the former country of Yugoslavia (3)."

Deliberate injuries caused by chemical weapons, land mines, grenades, or torture inflict far more casualties in a population than the lack of food and the lack of shelter. An analysis of the 1992 Amnesty International report demonstrates the nature and the global distribution of Human Rights' violations.

Systematic torture was reported in 93 of 204 countries. In other terms, torture today is still omnipresent, even in countries that have signed the Geneva conventions, which protect the rights of prisoners of war and civilians in occupied land. Reports of torture were more common from regions affected by political unrest, including mass demonstrations, riots, outbreaks of violence, killings, coup d'ètat attempts, civil war, armed tribal conflict, rebellion, and conflict with various opposition groups demanding social and political reform (4).

Regarding chemical weapons including nuclear weapons, some agents kill immediately; others cause serious burns; but many persist in the atmosphere and in the soil and may cause injury days or weeks later. Once released, the dispersion of these agents is difficult to control. Mustard gas and nerve gas are among the most lethal of chemical weapons and can remain in the environment for a long time. Soil samples collected from appropriate locations can indicate unequivocally the presence of chemical warfare agents or their degradation product even 4 years after an attack.

The casualties resulting from the increasing use of land mines in war results in frequent dismemberment of innocent children and adult civilians, even after the conflict has ended. Amputees without upper and lower limbs are now seen by the thousands inflicting a large burden on the hospital facilities and slowing the economic recovery in some regions of the world.

HEALTH ISSUES

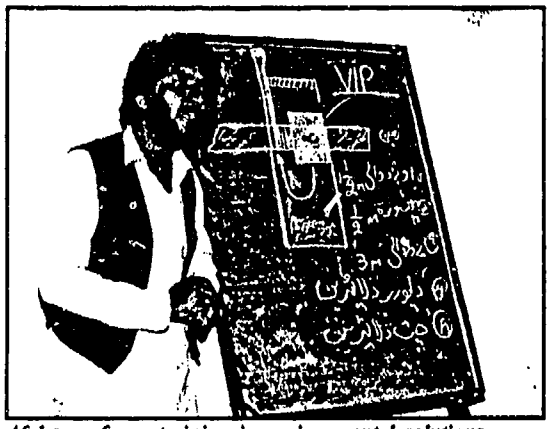
Because conflicts are becoming larger and more deadly, and involving large segments of the population, the public health consequences have resulted in an extremely high rate of mortality, morbidity, and malnutrition. The situation is more severe in developing countries where people already do not consume the minimum caloric meal to maintain their health status, and where local resources have been insufficient to provide prompt and adequate assistance.

Community Health Worker

Although during acute phases of war, mortality and casualties affect mainly males, the consequences in high-risks groups of mothers and children cannot be overstated.

Mortality. Unfortunately, mortality is one of the most specific indicators of the health status in an emergency-affected population. Reports are often inaccurate "guesstimates." Crude death rate (CDR) can reach 45-60 times the baseline CDR of their country of origin. However, there are numerous flaws: How many perinatal deaths are not reported? Are mothers' and daughters' death always registered? How do we overcome inaccurate denominators and implement standard reporting procedures? (5). In general, bias tends to underestimate the mortality rate when deaths are underreported, undercounted, or unknown, and population size is overstated. During the Afghan occupation, numerous children and women fleeing Afghanistan through high-snow mountains never made it to Pakistan. Sixty-three percent of deaths among displaced Kurds in Northern Iraq occurred in the 17% of the population younger than 5 years.

Injuries. War-related physical and psychological trauma is often poorly quantified. A great number of deaths and permanent disabilities is attributed to external and internal armed conflict. Torture, sexual violence against displaced women, internal ethnic fighting, children accidents resulting from "the war leftovers" are leaving physical and psychological sequelae and scars (6).



Afghan refugee training in environmental solutions

Famine-related Morbidity and Malnutrition. Famine is often being triggered by preexisting conditions such as high malnutrition prevalence, widespread poverty, and alike conditions (underemployment and intractable debts leading to chronic starvation). However, a high prevalence of acute malnutrition has not always been associated with food shortage. Diarrhea caused by infected water and lack of sanitation may increase some malnutrition indicators. The highest malnutrition rate has been reported in displaced populations in Africa where up to 80% of the population has acute malnutrition.

Malnutrition leads to several nutritional diseases; protein-energy undernutrition precipitates Marasmus and Kwashiorkor. We are witnessing again the occurrence of "micronutrient deficiencies" such as scurvy, pellagra, and beri-beri, due to lack of vitamin C, niacin, and thiamine, respectively. Avitaminoses A is recognized as a serious eye problem in displaced persons. The high-risk group comprising young mothers and children present severe anemia due to iron and folic acid deficient diets. In 1990, a survey of Palestinian refugees revealed that between 50 and 70% of infants and young children were anemic; and in a 1987 study in Somalia, the prevalence rate of anemia was 44-71% among pregnant women.

Communicable Diseases. One of the largest components of morbidity in the refugee population is caused by the pneumonia-diarrhea complex: the diarrheas are caused by viruses, bacteria and parasites, which are so important in the refugee communities that they defy easy control. They are the result of poor sanitation and hygiene, and the lack of environmental safeguards protecting water supply from unhygienic disposal of human waste. Cholera epidemics have occurred in numerous camps; outbreaks of dysentery caused by shigella dysenteriae and *E. coli* are common. Tuberculosis resulting from crowded living conditions and underlying poor nutritional status is a well-recognized problem. The frequent mobility of the refugees and the lack of personnel and often of camp organization makes compliance to chemotherapy difficult. The usual benign course of measles becomes a deadly disease in a setting of refugee camps and can be easily prevented by the inexpensive measles vaccine. Hepatitis is now emerging as a serious scourge in camps at the Horn of Africa where access to adequate clean water is limited. In Somalia, the attack rate of hepatitis was 8% among adults. Of 87 hepatitis deaths, 46% were among pregnant women (MMWR Vol. 41, 1992). Unfortunately, sexually transmitted diseases (STD) and HIV infections have been underreported; there is evidence that STDs are higher in refugees and displaced persons than in nonrefugee communities. The same situation applies for HIV infections, because these communities are either located or have escaped to regions of the world where HIV infections are high. This long list would not be complete without mentioning meningitis. The so-called "meningitis belt" is located in subsaharan Africa, and the case fatality ratio has been high in Ethiopia, the Sudan, and Thailand.

Synergism Between Infection and Malnutrition. Even though infection and malnutrition are important separate problems, one of the major health obstacles in the camps, as well in the less-developed world, is the synergism between them. These interactions are responsible for one third of the mortality and morbidity of infants and children and cause severe retardation of physical growth and psycho-motor development. An infant born to a chronically malnourished mother starts with a poor nutritional reserve and low birth weight.

Breast feeding then maintains relatively acceptable development for the next 4-6 months, then because of the inadequate and inappropriate weaning food and practices, the infant nutritional status deteriorates. At the same time, the infant is exposed to an increasingly overwhelming diversity of pathogens when passive immunity from the mother is declining. With each infection and diarrhea, nutritional status deteriorates, and this cyclically impairs resistance to infection (7).

Maternal and Child Health. The health protection of pregnant mothers and children is often overlooked. However, the future of the refugees remains in the health of the tandem mother-baby. Infant and maternal mortality are very high. Infection-induced abortions are on the increase. The pregnancy rate can be extremely high. In one Afghan refugee camp survey in Pakistan, 48% of the women of child-bearing age were pregnant (7).

THE WORLD RESPONSE TO REFUGEES AND DISPLACED PERSONS

Hundreds of humanitarian agencies work multilaterally (under the auspices of the United Nations), bilaterally (sponsored by the government authorities of a country), or through nonprofit organizations (NGOs such as religious groups, etc.). The relief agencies under the auspices of the United Nations provide an immense amount of assistance worldwide. They are mainly the United High Commissioner for Refugees (UNHCR), the World Food Program, or the United Nations Children Fund (UNICIF). These agencies can only be as neutral as U.N. members allow (e.g., the Afghan refugee program was entirely sponsored by noncommunist parties). Aid is most effective when delivered either by neutral groups or partisan factions. Among neutral groups, the International Red Cross (ICRC) tries to work on both sides of a conflict by assisting noncombatants only and avoiding armed escorts from any group as well as making public statement about the conflict. As long as the agency keeps neutrality among the warring parties, it can remain effective in delivering services (for example, Medecins sans Frontieres was forced to evacuate Ethiopia in 1989 after denouncing governmental actions, while the Red Cross remained). So far, the Red Cross has served as an effective intermediary between victims of conflicts and warring governments and authorities.

All these agencies have been overwhelmed with all the countries' complex demands varying from civil war and famine to internal mass displacement, to mass international migrations. The responses are generally prompt and adequate when refugees cross international borders, and, therefore, are covered by international legal conventions. For internal matters within a country, humanitarian agencies have been much slower to respond.

As discussed, the differentiation between refugees and displaced persons has significant implications for humanitarian assistance, since many of the international conventions and protocols apply only to the refugee, per se, and not to displaced persons. There is an extremely urgent need to extend the international conventions to cover the internally displaced. This has been resisted, however, as a matter of interference in the internal affairs of nations-states--(the organizing and limiting) principle of the U.N.

As a result, international aid is delayed and is often quite inadequate. Currently, the displaced population in Somalia and the Sudan have experienced the highest mortality rates triggered by the highest malnutrition rates ever documented (8).

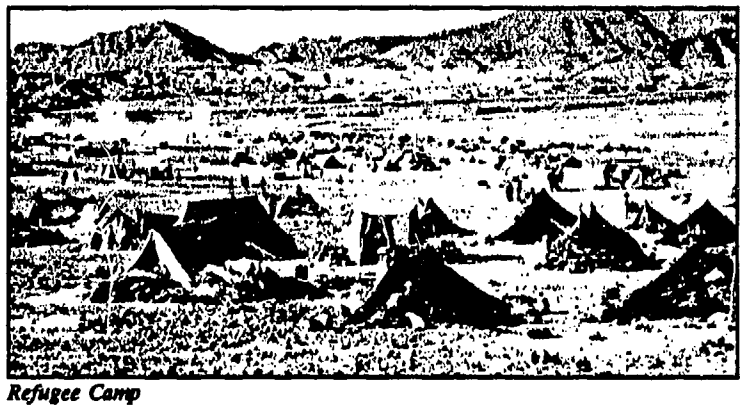
Open Air Clinic

The current U.N. system has taken steps to address this inconsistency in creating the Department of Humanitarian Affairs to "oversee international assistance to people affected by all manner of disasters, including war and displacement." Is this new department going to overcome the bureaucratic delays in mounting emergency operations? Today, governments are sending military troops for humanitarian assistance; what are their mission and mandate? Who defines the criteria to decide when to intervene? Are government interests superceeding their humanitarian efforts? Is there an International Charter for Humanitarian Assistance?

These questions still remain to be answered by the international community. In addition, we need to combat the root causes of refugee movements, with explicit condemnation of the practice of "ethnic cleansing," and to support the international protection and assistance of refugees, particularly women and children. From a humanitarian point of view, it is argued that it is unacceptable to discriminate in the distribution of relief aid between refugees and displaced persons in conflict situations, when both are living close together and experiencing the same hardships. Distribution could not be other than evenhanded.

HEALTH RESPONSE

As technicians, health-care professionals are involved during each step of relief programs and emergency assistance addressing the critical needs of wounded civilians, refugees, and internally displaced persons. The health community is in a unique position to address various problems such as torture, rape, ethnic cleansing, and the care of survivors. The range of their interventions varies from emergency medicine to a more structured public health programs.



Refugee Camp

To accomplish their work, medical personnel should obviously bear the status of medical neutrality. The Geneva Convention of 1949 and the additional protocol of 1977 mandate the protection of medical facilities, personnel and patients, the humane treatment of civilians, the right to access care, and the nondiscriminatory treatment of the ill and wounded in time of war. Unfortunately, these international laws do not apply to many internal conflicts, and there are frequent violations of medical neutrality. It is sometimes so dangerous for a medical team to function in conflicting zones that U.N. and other relief operations have been shut down.

The health community has also been persecuted because of their professional activities or their beliefs, peacefully opposing the policies of their government. Many have been imprisoned for long periods without trials; others were tortured or murdered, or have simply "disappeared" (9).

However, the complicity of the medical profession in governmental practices of torture and the use of psychiatry to keep political opponents imprisoned has been widely documented. This participation raised important questions about the ethical standards of the medical profession and how they should be enforced. In the United States, despite objections by many professional organizations, the participation of physicians in capital punishment continues and is likely to become more common in the years ahead. After all, wasn't it a French physician, Dr. Guillotin, who developed the guillotine as a more humane and efficient method of execution?

Effective Humanitarian Aid. Effective aid must be focussed on the refugee's needs and not the donor's whims. Too many times, medical or other supplies are inappropriate to be delivered to the refugees. Well-meaning private organizations send inappropriate and unsolicited supplies, clogging the airlift system with

goods that are too small in quantity, do not meet the cultural standards, or are too sophisticated. Very often, advanced medical technology must be replaced by simple public health programs that prioritize preventable diseases, nutrition, sanitation, and treatable war injuries, reducing therefore mortality from starvation, infectious diseases, and war casualties.

Changing Programs From Curative to Preventive Medicine. The appropriate response program for refugees and displaced persons should focus mainly on the public health aspects of the program, but depends, however, on how well prepared the host countries are to aid the affected communities. Once the most urgent problems are identified (adequate food, clean water, sanitation, and shelter), the following elements should be established as soon as possible.

A health information system comprising mortality, morbidity and nutrition surveillance, pneumonia-diarrheal disease control with oral rehydration therapy, community hygiene education, cholera prevention, and infectious disease control including immunization.

Basic curative care emphasizing MCH, referral systems, development of an essential drug list and other standard treatment guidelines.

Management of the program mainly through training of health and community workers, development of treatment site, and triage systems.

Refugee Child

It is also important to identify high-priority demographic groups such as mothers and young children who should have easy access to treatment facilities. Data on mortality, morbidity and diseases are of utmost importance. It helps to facilitate the procurement of appropriate medical supplies and the recruitment and training of appropriate health personnel as well as to focus on the sanitation and environmental control (10).

Typically, a refugee health response program evolves in three phases: the emergency phase, the integration and organizational phase, and the consolidation phase.

The emergency phase starts as a response to a humanitarian situation and governmental requests. The initial relief efforts are to provide health care on an emergency basis. During this period, priority is given to meeting the accurate medical needs of the rapidly increasing refugee population.

The integration and the organizational phase takes place when an analysis of the performance of the various curative and preventive projects leads to the decision of integrating all the health operations into a comprehensive health program starting with a basic infrastructure (e.g., in the Afghan Refugee Health Program, there was the creation of Basic Health Units (BHU) in each refugee village.) The preventive health programs were given priorities. Tuberculosis control, Expanded Program for Immunization (EPI), and malaria control were the first activities recognized within the integrated structure. Training and the reorientation of the health staff, reporting and recording practices, evaluation, et cetera, were implemented during that phase.

At the consolidation phase, the priorities are defined as an attempt to shift the health response from a vertical approach to a more horizontally integrated program. Therefore health policies, training, health education, materials, staffing, and drug lists are being coordinated. Achieving an appropriate balance between

categorical programs (such as tuberculosis, malaria, EPI) and comprehensive care is the most difficult challenge in refugee health planning.

Does the System Work? Despite constant criticism, the international community through its international agencies and voluntary nongovernmental organizations has increasingly assumed responsibility and assistance to disaster-stricken areas. These organizations have done superb work to maintain international interest and to mobilize the marshaling of resources as well as implementing different levels of service delivery in areas where security and civil order are often scarce and nonexistent, and violations of international humanitarian laws are the norms rather than the exception. However, in many cases, the response is often ineffective, comes too late, and is too slow. These responses are often not adapted to the needs. Local sensitivities are ignored, and there should be a better use of the on-site institutions, and of the mobilization of local resources. Coordination is required to avoid duplication, waste, and competition. Despite contributing substantial levels of resources, donor governments seem often more interested in receiving credit than the impact of their assistance. In the Afghan Refugee Health Program, distribution of reconstituted milk given by the donor country had to be stopped because of numerous infant deaths due to dehydration caused by diarrheal diseases and unsanitary containers.

We should ask ourselves the following questions today.

Who should coordinate aid activities, whether emergency or long-term in nature? Even if agencies exalt coordination, do all agencies let themselves be coordinated? Does coordination slow responsiveness? How do we prevent too much centralization and politization to coordination?

Who does the job better? Who provides the best aid in unsecured areas? Who is apolitical enough to negotiate best on behalf of humanitarian interests? Who carries the best level of stamina and professionalism? (That is, the best sense of community and contextual sensitivity as well as specialized training and specific skills and experience.)

How can people be reached best at their grass roots levels? Are traditional concepts of development still valid in these special situations (such as intergovernmental and bilateral aid donors working best with host governments while known to be more effective at the local influence level and beyond the grass roots)? Should we increase the use of U.N. personnel? Can private agencies be more cost-effective?

New Arrivals

How is the connection between emergency relief and long-term development being made? Do we need more flexibility and improvisation in the decision making? Should NGO continue their traditional role?

Is Refugee and War Medicine Becoming A New Specialty?

War and refugee medicine is still in infancy, and a new science of humanitarian aid is emerging. Such a specialty is not taught at medical or nursing schools and, needless to say, university students are not exposed to formal training. Very few lectures are given on the subject of health, human rights, and humanitarian assistance in conflicts and disasters. But where should such a specialty belong? New technology and

emergency care standards of wealthy countries are rarely present during a war. Public health and community medicine departments do not emphasize all aspects of refugee medicine. How about International Health Departments or Tropical Medicine Units? Should their laboratories fund research in cross-cultural reliable surveillance systems, valid tools for rapid assessment, and effective intervention strategies?

Such a specialty is unique by the variety of disciplines it involves. Sociology, anthropology, and cultural psychology are as important as emergency medicine, public health programs, and physical and psychological rehabilitation. A solid knowledge of ethnic groups, languages, and social, geographic, and climatic differences cannot be overemphasized. Today, very few dedicated doctors and nurses have been prepared for these special tasks, nor have they been exposed to conflict and disaster situations. Adequate food, water, shelter, sanitation, and public health issues are often dissonant with regional cultural practices, and religious beliefs.

Guarding the Well

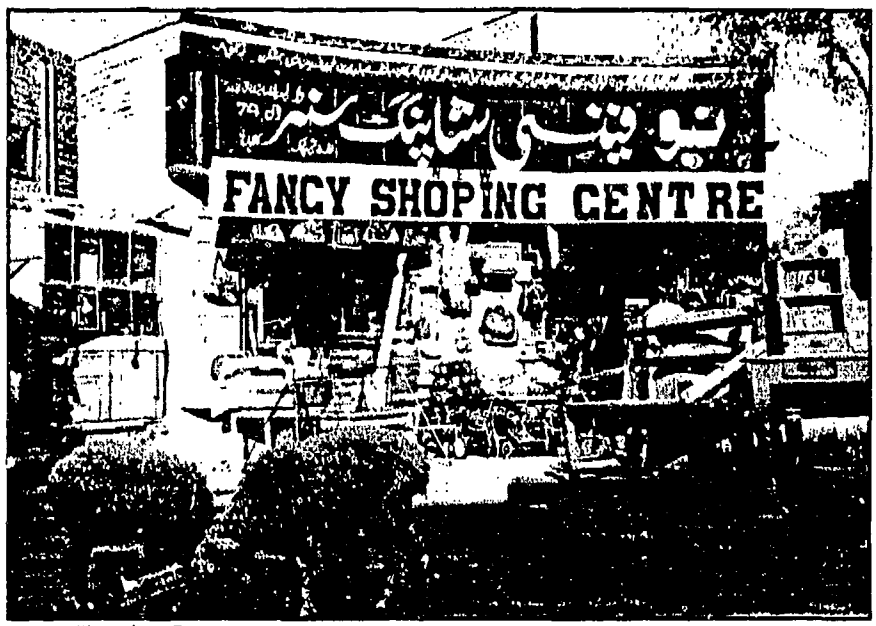
The commitment of the medical community is insufficient in terms of the number and training. The health professionals of the Western world are mostly absent partners of the International health endeavors. As an example, less than one half percent of all U.S. physicians and barely more than one tenth of one percent of all U.S. nurses are involved in international health and relief services. These figures are extremely low compared to the depth and the richness of all the country's health resources and the U.S. commitment to humanitarian relief work in the world. A 1984 survey by the Johns Hopkins University Department of International Health and the National Council for international Health estimated that only 8700 U.S. professionals were thus engaged, including at least 1488 nurses, 1417 physicians, and nearly 900 health and hospital administrators, managers, and planners and some other 2700 heath specialists (11).

In recent decades, physicians have started to organize themselves to assist humanitarian crisis. Their unique contribution in this field has helped the investigation and documentation of violation of medical neutrality, refugee health crisis, the use of indiscriminate weapons, torture, deliberate injury and rape, and mass execution. Their work requires a diversity of technical as well as personal skills. Dedication, integrity, compassion, and endurance have all contributed to the relief of million refugees. Such involvement reflects an assertion of professional commitment that transcends national interests, religious, ethnic, cultural, or political differences. In a world in which profound violations are likely to continue, the participation of physicians and other health workers in human rights' work may be viewed as an increasingly necessary extension of the traditional responsibilities (12,13).

CONCLUSIONS

During the last decade, the refugee and displaced person situation has reached alarming proportions in the world, mostly caused by the violations of human rights in wars, ethnic conflicts, and brutal repressions mounted by officials against their own citizens. More than 43 million people are displaced today, including those for economical reasons. This situation has lead to profound humanitarian crisis with a range of consequences from the individual to a large public health repercussion. As health professionals, our skills are uniquely valuable in witnessing and documenting those human rights violations and, only in recent decades, the medical community has mobilized itself to meet these increasing challenges. However, our response has been insufficient. We should be more involved in relieving the suffering of innocent victims of oppression.

We should also be better prepared to what is becoming more and more a specialty that transcends beyond national borders, ethnic, religion, cultural, and political differences. Our neutrality, which is sine qua non to operate effectively, should be recognized and reinforced. War and refugee medicine may well be our next challenge extending beyond our traditional professional mission and mandate.



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Transportation of medicine, arms, and other goods

APPENDIX A

ANNOTATED BIBLIOGRAPHY OF DISASTER RELIEF

Anonymous, *Evacuation of Vietnamese Refugees in French Indochina.* In "The History of the Medical Department of the United States Navy, 1945 to 1955" (NAVMED P-5057), pp. 197-205. Bureau of Medicine and Surgery, Department of the Navy, Washington, DC, 1958.

Describes a specific Navy refugee mission. Contains a detailed description of numerous problems and how they were solved.

Armenian, H.K., Zurayk, H.C., Kazandjian, V.A., "The Epidemiology of Infant Death in the Armenian Parish Records of Lebanon." *Int J Epidemiol*, 15(3), pp. 373-378, 1986.

Parish records of death and baptismal registers in the Armenian Apostolic churches in Lebanon from 1863 indicate a constant drop in the infant death rate. Infant mortality rates were higher in the parishes located in refugee camp areas. The most important recorded cases of death included diarrhea and pneumonia. A study of clustering of deaths by time and place revealed a major epidemic of measles with high fatality in 1926. This epidemic had been previously unrecorded. The present study demonstrates the use of nontraditional data sources to assess long-term secular trends of mortality.

Arnow, A.P., Heirholzer, J.C., Higbee, J., Harris, D.H., Acute Hemorrhagic Conjunctivitis: A Mixed Virus Outbreak Among Vietnamese Refugees on Guam." *Am J Epidemiol*, 105(1), pp. 68-74, 1977.

An outbreak of acute hemorrhagic conjunctivitis affected 29,000 refugees from South Vietnam on Guam en route to the United States. Illness lasted 6-10 days and was characterized by conjunctival injection (100%), lid edema (84%), eye irritation (81%) and subconjunctival hemorrhage (45%). Conjunctival swabs and paired serum specimens on a limited number of patients implicated enterovirus 70 as a major etiologic agent and adenovirus 11 as a less frequent agent. Adenovirus 8 and herpes simplex virus caused concurrent, sporadic cases of keratoconjunctivitis. The attack rate was highest on evacuation vessels where crowding and poor sanitation facilitated person-to-person spread of infection.

Assar, M., *Guide to Sanitation in Natural Disasters.* World Health Organization, Geneva, 1971.

This older text provides practical information and recommendations on environmental sanitation in natural disasters and emergencies. Food and water sanitation, waste disposal, and vector/vermin control in the community and in camps are discussed.

Benenson, A.S. (Ed.), *Control of Communicable Diseases in Man*, 15th ed. American Public Health Association, Washington DC, 1990.

Bissell, R.A., "Delayed-impact Infectious Disease After a Natural Disaster." *J Emerg Med*, 1(1), pp. 59-66, 1983.

Most recent studies of natural disasters have shown little increase in postdisaster infectious disease. The result has been a deemphasis of the disease-control portion of many disaster relief programs. This study demonstrates a significant increase in four out of the five diseases studied following two hurricanes in the Dominican Republic, with the major impact of the increases coming several months after the disaster. Posited reasons for the increase in infectious diseases are overcrowding of makeshift refugee centers with insufficient sanitary facilities, and flood-caused water transmission of pathogens.

Bothros, B.A., Watts, D.M., Soliman, A.K., Salib, A.W., et al., "Serological Evidence of Dengue Fever Among Refugees, Hargeysa, Somalia." Virology Division, U.S. Naval Medical Research Unit No. 3, Cairo, Egypt, *J Med Virol*, 29(2):79-81, 1989.

Epidemics of malaria-like illness affected several thousand residents of the Dam Camp, a refugee camp near Hargeysa in Somalia, during 1985, 1986, and 1987. The disease was characterized by fever, chills, sweats, headache, back and joint pains for as long as 10 days in some patients. Antibody reactive to dengue 2 virus was detected; two patients developed fourfold or greater rises in titer.

Bres, P., *Public Health Action in Emergencies Caused by Epidemics*. World Health Organization, Geneva, 1986.

A 286-page text that deals almost entirely with communicable disease epidemics, which are not necessarily related to disasters. It includes an extensive section on the basic procedures and statistical tools needed to investigate an epidemic, a section on health services and organization during the epidemic, and some excellent tables and annexes including those on safety precautions and collecting/shipping specimens. Control of Communicable Diseases in Man by A.S. Benenson is a better reference for diseases and control measures.

Center for Disease Control, "Enterically Transmitted Non-A, Non-B Hepatitis, East Africa." *Morbidity and Mortality Weekly Report*, , 36(16), pp. 241-244, 1987.

Center for Disease Control, *The Public Health Consequences of Disasters 1989*. Centers for Disease Control, U.S. Department of Health and Human Services, Atlanta GA, 1989.

This Center for Disease Control monograph focuses on natural disasters, but chapters on surveillance, epidemiology and communicable disease control are good overviews. Later chapters deal with situations specific to natural disasters, e.g., floods.

Desenclos, J.C., Berry, A.M., Padt, R., Farah, B., et al., "Epidemiological Patterns of Scurvy Among Ethiopian Refugees." *Bulletin World Health Organization*, 67(3), pp. 309-316, 1989.

Scurvy is a serious public health problem for refugees who are dependent on standard relief food (cereals, legumes, and oil). Prevalence of scurvy ranged from 13.6% to 44%. To avoid scurvy in refugee communities, the authors recommend supplementing relief food with vitamin C at an early stage of a crisis.

De Ville de Goyet, Seaman J., Geijer, U., *The Management of Nutritional Emergencies in Large Populations*. World Health Organizations, Geneva, 1978.

The authors provide guidance on managing nutritional emergencies resulting from any cause. Assessment and surveillance of nutritional status, nutritional relief, therapeutic feeding, or administration of nutritional relief efforts are discussed. Communicable diseases and their surveillance as part of the relief effort are also addressed.

Dick, B., "Diseases of Refugees--Causes, Effects and Control. *Trans R Soc Trop Med Hyg*, 78(6), pp. 734-741, 1984.

Djeddah, C., Miozzo, A., Di Gennaro, M., Rosmini, F., et al., "An Outbreak of Cholera in a Refugee Camp in Africa." General Direction for Cooperational Development, Ministry of Foreign Affairs, Rome, Italy. *Eur J Epidemiol*, 4(2), pp. 227-230, 1988.

Antiepidemic measures consisted of preparation of isolation wards, treatment of contaminated materials, training of refugees, and patient care. Mass prophylaxis, initially considered, was dropped before the end of the epidemic.

Dunsmore, D.J. *Safety Measures for Use in Outbreaks of Communicable Disease.* World Health Organization, Geneva, 1986.

A compilation of recognized safety measures and procedures for use in the field, this manual describes how locally available facilities may be adapted for emergency use. It complements the information given in public health action in emergencies caused by epidemics.

Elias, C.J., Alexander, B.H., Sokly, T., "Infectious Disease Control in a Long-term Refugee Camp: The Role of Epidemiologic Surveillance and Investigation." *Am J Public Health,* 80(7), pp. 824-828, 1990.

Describes the development and implementation of simple surveillance methods in a refugee population. Demonstrates that such surveillance is of vital importance in identifying emerging health problems and monitoring the methods designed to correct or alleviate them.

Gaydos, J.C., Mino, T.A., Ashmore, L.E., Bertsch, M.L., et al., "A Preventive Medicine Team in a Refugee Relief Operation--Fort Chaffee Indochina Refugee Camp (April-July 1975)." *Military Medicine,* 143(5), pp. 318-321, 1978.

Glass, R.I., Cates, W., Nieburg, P., et al., "Rapid Assessment of Health Status and Preventive-medicine Needs of Newly Arrived of Kampuchean Refugees." Sa Kaeo, Thailand, *Lancet,* 1, pp. 868-872, 1980.

A brief summary of the methods and value of rapid collection and analysis of basic medical information in a refugee camp.

Goodman, R.A., Buehler, J.W., Koplan, J.P., "The Epidemiologic Field Investigation: Science and Judgement in Public Health Practice." *Am J Epidemiol,* 132(1):9-16, 1990.

A discussion of the differences between field studies done under the pressures of an acute epidemiologic emergency compared to a carefully designed and conducted academic research project. Makes practical points of immediate relevance.

Hartmann, K., Allison, J., "Expected Psychological Reactions to Disaster in Medical Rescue Teams." *Mil Med,* 146, pp. 323-327, 1981.

Excellent review of a topic that has a tremendous impact on the efficiency and effectiveness with which a relief effort can be conducted. Discusses the reactions of the victims to their predicament and to the rescue effort. Lack of knowledge of these reactions and the inability to deal with them can significantly interfere with the rescue effort.

International Association of Milk, Food, and Environmental Sanitarians (IAMFES), *Procedures to Investigate Waterborne Illness,* 1979; *Procedures to Investigate Arthropodborne and Rodentborne Illness,* 1983; *Procedures to Investigate Foodborne Illness* (4th ed), 1988.

This handy series was prepared by the Committee on Communicable Diseases Affecting Man, of the International Association of Milk, Food, and Environmental Sanitarians, Inc., P.O. Box 701, Ames IA 50010.

Khan, M.U., Munshi, M.H., "Clinical Illnesses and Causes of Death in a Burmese Refugee Camp in Bangldesh." *Int J Epidemiol*, 12(4), pp. 460-464, 1983.

In 1978 almost 200,000 Burmese refugees entered Bangladesh. Thirteen camps were set up for refugees; data for the camp at Leda are presented here. Four medical clinics were established including a diarrhea clinic operated by the International Centre for Diarrhoeal Disease Research, Bangladesh. The four clinics recorded a total of 174,201 visits by the refugees, of which 28% were for watery diarrhea, 32% for dysentery and 40% for other illnesses. Of 2321 diarrhea stools cultured, 29.2% yielded pathogens of which 22% were shigellae alone. Coliform count of water was extremely high. The death rate (89/1000/year) was higher than the birth rate (28/1000/year). Most of the deaths were among infants (640), children (357), and old people (131). Main causes of death were clinical diarrhea (11.8%), fever (23%), and poor nutrition (52%). Prompt arrangements for food, identifying the vulnerable groups, and proper sanitation perhaps could have reduced the number of deaths considerably.

Khan, M.U., Shahidullah, M., "Role of Water and Sanitation in the Incidence of Cholera in Refugee Camps." *Trans R Soc Trop Med Hyg*, 76(3), pp. 373-377, 1982.

The purpose of this study was to determine the prevalence of cholera in two groups: (i) people using covered latrine and piped water, and (ii) people using uncovered surface latrine and pond and tubewell water. In the camp with sanitation facilities, the cholera rate was 1.6 per 1000, whereas in two camps without facilities, the rates were 4.0 and 4.3 per 1000. Following demolition of the camps, the cholera rates decreased significantly in the camps' geographical zones. Cholera was not totally eliminated, even in the camp with sanitation facilities, suggesting that health education, as well as proper sanitation is necessary to eradicate cholera.

Lilienfield, L.S., Rose, J.C., Corn, M., "United Nations Relief and Works Agency (UNRWA) and the Health of Palestinian Refugees." United Nations Relief and Works Agency. *N Eng J Med*, 315(9), pp. 595-600, 1986

The United Nations Relief and Works Agency for Palestine refugees (UNRWA) has provided health, education, and welfare services since 1949. Effective programs for health education, maternal and child health, and immunization have markedly improved the health of the refugees over the years of UNRWAS operation. The general health of the population is good, primarily as a result of wise emphasis on public health and preventive medicine measures.

Miller, C.M., Nichaman, M.Z., Lane, J.M., "Simplified Field Assessment of Nutritional Status in Early Childhood: Practical Suggestions for Developing Countries." *Bull World Health Organ*, 55, 79-86, 1977.

This article does not stress rapid nutritional status assessment strategies or disasters, but it does provide more detail on the methods of sampling and assessment.

Moore, G.R., Dembert, M.L., "The Military as a Provider of Public Health Services After a Disaster." *Mil Med*, 152(6), pp. 303-307, 1987.

A good review of the basic problems that develop in the immediate aftermath of a disaster. It lists specific steps and actions that must be undertaken to establish an all-encompassing program.

Nalin, D.R., "Introduction and General Principles for Enteric Bacterial Infections." In *Hunter's Tropical Medicine*, 6th Ed., Strickland, G.T. (Ed)., pp. 273-297, W.B. Saunders, Philadelphia, 1984.

This chapter summarizes the basic approach to the treatment of a child with diarrheal disease with emphasis on oral rehydration.

Nieburg, P., Waldman, R.J., Leavall, R., et al., "Vitamin A Supplementation for Refugee and Famine Victims." *Bull World Health Organ*, 66, pp. 689-697, 1988.

Another issue that may or may not be a concern, but it presents methods of assessment and intervention.

Pan American Health Organization (PAHO), *Emergency Health Management After Natural Disaster*. Pan American Health Organization, Scientific Publication No. 407, Washington DC, 1982.

Pan American Health Organization (PAHO), *Emergency Vector Control After Natural Disasters*. Pan American Health Organization, Scientific Publication No. 419, Washington DC, 1982.

A quick summary of vectorborne disease issues and vector control measures during disasters. It is especially useful for the nonentomologist (PM physician, EHO, PMT) who has to be conversant in these topics.

Pan American Health Organization (PAHO), *Environmental Health Management After Natural Disasters*. Pan American Health Organization, Scientific Publication No. 430, Washington DC, 1982.

A brief summary of environmental health issues, including food and water sanitation, sewage and refuse disposal, and shelter. It does not provide a lot of detail, thus it is more useful for the non-EHO.

Pan American Health Organization (PAHO), *Health Services Organization in the Event of Disasters*. Pan American Health Organization, Scientific Publication No. 443, Washington DC, 1983.

This booklet complements others in the PAHO series. It Discusses the organization of clinical medical care services in preparation for the onset and aftermath of disasters.

Sandler, R.H., Jones, T.C. (Eds), *Medical Care of Refugees*. Oxford University Press, New York, 1987.

Shaw, R., "Health Services in a Disaster: Lessons From the 1975 Vietnamese Evacuation." *Mil Med*, 144(5), pp. 307-311. 1979.

Simmonds, S.P., "Refugee Community Health Care in the Tropics: Refugees, Health and Development." *R Soc Trop Med Hyg*, 78(6), pp. 726-733, 1984.

Shears, P., Berry, A.M., Murphy, R., Nabil, M.A., "Epidemiological Assessment of the Health and Nutrition of Ethiopian Refugees in Emergency Camps in Sudan, 1985." *British Medical Journal*, 295, pp. 314-318, 1987.

Demonstrates the usefulness and types of information that can be obtained from epidemiologic surveillance efforts. Surveillance activities in refugee camps have been neglected historically, leaving no clear picture of the types and magnitude of problems that need to be managed. Up to half of the preschool children were malnourished. Measles, diarrhea and dysentery, respiratory infections, and malaria were the commonest causes of morbidity and mortality.

Sukonthaman, A., Freeman, J.D., Ratanavarak, M., Khaoparisuthi, V., Snidvongs, W., "Mycoplasma Pneumonia Infections: The First Demonstration of an Outbreak at a Kampuchean Holding Center in Thailand." *J Med Assoc Thai*, 64(8), pp. 392-400, 1981.

Toole, M.J., Steketee, R.W., Walman, R.J., Nieburg, P., "Measles Prevention and Control in Emergency Settings." *Bull World Health Organ*, 67, pp. 381-388, 1989.

The article outlines implementation of measles vaccination and control programs among infants and children who are displaced or in refugee camps. It may be pertinent if conditions have resulted in young children with poor nutrition who have not received any vaccine.

Toole, M.J., Waldman, R.J., "Prevention of Excess Mortality in Refugee and Displaced Populations in Developing Countries." *Journal of the American Medical Association*, , 263, pp. 3296-3302, 1990.

An excellent article that focuses the reader on what the priorities should be in implementing assistance for a refugee or displaced population so that mortality and morbidity can be minimized. The authors stress adequate food rations, sufficient quantities of clean water, measles vaccine for children, and as surveillance system for mortality, nutritional status and a few select diseases.

Toole, M.M., Waldman, R.J., "An Analysis of Mortality Trends Among Refugee Populations in Somalia, Sudan and Thailand." *Bull World Health Organ*, 66, pp. 237-247, 1988.

This recent analyses of mortality in different refugee situations provides good background and justification for the importance of adequate food rations, clean water, measles vaccine for children, and an oral rehydration program.

Western, K.A., *Epidemiologic Surveillance After a Natural Disaster*. Pan American Health Organization, Scientific Publication No. 420, Washington DC, 1982.

A handy 94-page summary of communicable disease risks, surveillance, epidemic/rumor investigation, and control measures after disasters. Although the primary concern is natural disasters, it discusses some of the differences in manmade disasters, and is generally applicable to both situations.

World Health Organization, *Coping with Natural Disasters: The Role of Local Health Personnel in the Community*, Geneva, 1989.

An excellent publication addressing the response of the community to a disaster. It provides numerous roles for the local residents. Although community preparation is stressed, it is useful in thinking about approaches after the event. An annex includes WHO tables of weight-for-height and arm-circumference-for-height to assess nutritional status and malnutrition.

World Health Organization, *The Treatment and Management of Severe Protein-energy Malnutrition*, Geneva, 1981.

As the title implies, this 47-page booklet covers basic treatment of PEM and associated conditions in children. It also provides guidelines for oral rehydration.

World Health Organization, *WHO Emergency Health Kit: Standard Drugs and Clinic Equipment for 10,000 Persons for 3 Months*. Geneva, 1984.

A handy booklet for the logistics-oriented and their advisors who must plan to provide medical equipment and supplies to a civilian or POW population in an emergency. The list is based on epidemiological data, population profiles, disease patterns and past experiences. The drug lists and schedules are from the WHO Model List of Essential Drugs. For U.S. trained physicians, the drugs and schedules (e.g., chloramphenicol

capsules, but no cephalosporin) may help them adjust from a U.S. standard of care to one necessary to meet the needs of the situation and the place.

More New Arrivals

Claude Aguillaume With Refugees

APPENDIX B

You are Cordially Invited to the Fifth in a Series of

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presented by the

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Is Refugee and War Medicine Becoming a New Specialty?

given by

Claude Aguillaume, M.D.

Senior Scientist, Center for Biomedical Research

Keynote speaker for the

Naval Aerospace and Operational Medical Institute's

1993 Problems Course

8:30 a.m., Tuesday, 7 December 1993

Theater Building 633, 181 Chambers Road

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Public Cordially Invited

Freedom Fighter

All photographs of refugee subject matter are courtesy of C. Aguillaume.

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13. ABSTRACT *(Maximum 200 words)*

On July 26, 1988, the commanding officer established the Ashton Graybiel Lecture Series to honor the former scientific director of the Naval Aerospace Medical Research Laboratory. Like Dr. Graybiel, this lecture series is intended to stimulate and challenge conventional research interests in naval aviation and aerospace medicine.

As a pioneer in the field of aviation medicine for over 40 years, Dr. Graybiel made many significant scientific contributions, which cannot be overstated. His world-renowned work advanced current aeromedical knowledge and established the reputation of this laboratory. Today, his expertise, foresight, and creativity remain as benchmarks in our aviation medicine research.

We are committed to the same level of excellence in meeting the "needs of the fleet" that Dr. Graybiel accomplished during four decades of research. We are delighted that you are able to join us for this unique opportunity to meet and share information with some of the most noted scientists in the fields of naval aviation, aerospace medicine, and environmental physiology.

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